# Chroma-Q™

## Magic Box™
## EtherSwitch 7F™

User Manual

Chroma-Q™
BRILLIANT SOLUTIONS

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PN: 156-0501

# Warranty Statement

Chroma-Q warrants to the original purchaser, with proof of purchase, that its delivered products shall be free from defects in material and workmanship under normal use for a period of 12 months from date of shipment.

Chroma-Q will repair, or at its option, provide an equivalent item or replace, the defective product during the stated warranty period. This warranty applies only to the repair or replacement of the product and only when the product is properly handled, installed and maintained according to Chroma-Q instructions. This warranty excludes defects resulting from improper handling, storage, installation, acts of God, fire, vandalism or civil disturbances. Purchaser must notify Chroma-Q in writing within 14 days of noticing the defect. This warranty excludes field labour or service charges related to the repair or replacement of the product.

The warranty contained herein shall not extend to any finished goods or spare parts from which any serial number has been removed or which have been damaged or rendered defective (a) as a result of normal wear and tear, willful or accidental damage, negligence, misuse or abuse; (b) due to water or moisture, lightning, windstorm, abnormal voltage, harmonic distortion, dust, dirt, corrosion or other external causes; (c) by operation outside the specifications contained in the user documentation; (d) by the use of spare parts not manufactured or sold by Chroma-Q or by the connection or integration of other equipment or software not approved by Chroma-Q unless the Customer provides acceptable proof to Chroma-Q that the defect or damage was not caused by the above; (e) by modification, repair or service by anyone other than Chroma-Q, who has not applied for and been approved by Chroma-Q to do such modification, repair or service unless the Customer provides acceptable proof to Chroma-Q that the defect or damage was not caused by the above; (f) due to procedures, deviating from procedures specified by Chroma-Q or (g) due to failure to store, install, test, commission, maintain, operate or use finished goods and spare parts in a safe and reasonable manner and in accordance with Chroma-Q's instructions (h) by repair or replacement of engines without factory training.

The warranty contained herein shall not apply to finished goods or spare parts which are sold "as is", as "second-hand", as used", as "demo" or under similar qualifications or to Consumables ("Consumables" is defined as any part(s) of goods or part(s) for use with goods, which part(s) of goods or part(s) for use with goods are consumed during the operation of the goods and which part(s) of goods or part(s) for use with goods require replacement from time to time by a user such as, but not limited to, light bulbs).

The warranty contained herein shall not apply, unless the total purchase price for the defective finished goods or spare parts has been paid by the due date for payment.

The warranty contained herein applies only to the original purchaser and are not assignable or transferable to any subsequent purchaser or end-user.

This warranty is subject to the shipment of the goods, within the warranty period, to the ChromaQ warranty returns department, by the purchaser, at the purchasers expense. If no fault is found, ChromaQ will charge the purchaser for the subsequent return of the goods.

Chroma-Q reserves the right to change the warranty period without prior notice and without incurring obligation and expressly disclaims all warranties not stated in this limited warranty.

## Disclaimer

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that Chroma-Q products are safe, effective, and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent. Chroma-Q sole warranty is that the product will meet the sales specifications in effect at the time of shipment. Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted.

Chroma-Q reserves the right to change or make alteration to devices and their functionality without notice due to our on going research and development.

The Chroma-Q Magic Box EtherSwitch 7F system has been designed specifically for the lighting industry. Regular maintenance should be performed to ensure that the products perform well in the entertainment environment.

If you experience any difficulties with any Chroma-Q products please contact your selling dealer. If your selling dealer is unable to help please contact support@chroma-q.com. If the selling dealer is unable to satisfy your servicing needs, please contact the following, for full factory service:


Outside North America:
Tel: +44 (0)1494 446000
Fax: +44 (0)1494 461024
support@chroma-q.com

North America:
Tel: 416-255-9494
Fax: 416-255-3514
support@chroma-q.com


For further information please visit the Chroma-Q website at www.ac-et.com.


Chroma-Q is a trademark, for more information on this visit www.chroma-q.com/trademarks.

The rights and ownership of all trademarks are recognised.

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# 1. Product overview

The EtherSwitch 7F is a heavy duty, high speed unmanaged network switch that supports simultaneous computer connections. Designed to satisfy the requirement of entertainment touring applications, the EtherSwitch 7F is equipped with one OpticalCon fibre optic connector supporting 1000Mbps, and seven shielded Ethercon (RJ45) ports supporting 10 / 100 / 1000 Mbps bandwidth in full-duplex mode. This stand-alone unit enables the concurrent use of various multimedia devices within a network without traffic restrictions.

The unique Magic Box interlocking enclosure facilitates easy rack mounting when used in single units or pairs, and easy truss mounting via captive nut insert. Rack mounting brackets are available in single unit and dual unit versions, enabling you to customize your equipment rack or your installation by mixing and matching different Magic Box interface.

# 2. Operation

## 2.1 Unpacking the units

The EtherSwitch 7F package includes 1 EtherSwitch unit, a power cord and a Quick Start Guide. We recommend that you keep the original packaging in case items need to be returned.

## 2.2 Power

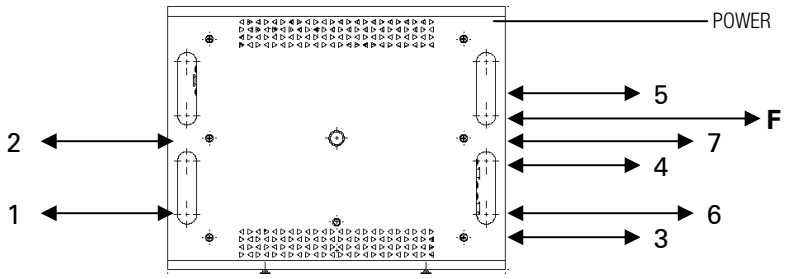
Power for the EtherSwitch 7F is connected through a male IEC chassis connector with input rating of 100-240V AC, 50-60Hz. There is no power button and plugging into the power outlet will immediately power the unit on.

## 2.3 OpticalCon Fibre Optic and RJ45 Ethercon Ports

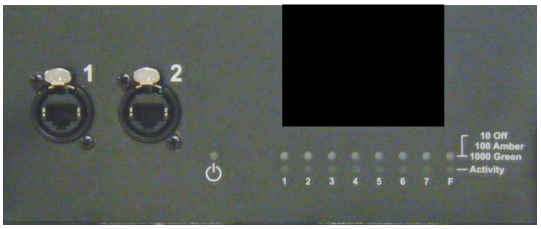
The single OpticalCon fibre optic port at the rear panel supports 1000Mbps, and the 7 shielded RJ45 Gigabit Ethercon ports (2 x front panel; 5 x rear panel) support network speeds of 10Mbps / 100Mbps / 1000 Mbps which operate in half/full duplex transfer modes. The EtherSwitch 7F system utilises CAT5e cable to send and receive data in all IEEE 802.3 protocol, supports automatic MDI/MDIX crossover detection, and will automatically detect the settings of the external device immediately upon connection.

Send and receive data (all IEEE 802.3 protocol) to and from an external source through any of the seven shielded RJ45 Ethercon ports and one OpticalCon fibre optic port.

OpticalCon Fibre Optic Port and RJ45 Ethercon Ports:

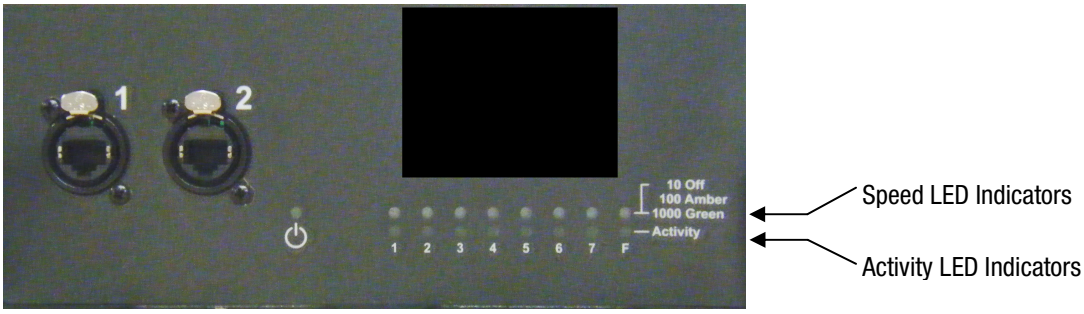



Front Panel: 2 Ethercon Ports




Rear Panel: 5 Ethercon Ports, 1 OpticalCon Fibre Optic Port

## 2.4 LED Indicators




1. The LED indicator for power at the front panel will light up (Green) when the EtherSwitch 7F is receiving power, otherwise, it is off.

2. Cable diagnostic will start upon power up, which will determine if the Ethernet cables connected support 1000Mbps and a successful link is present. This process is indicated by the **Speed** LED corresponding to each of the 8 ports blinking (Green) sequentially.

   The initial port scan takes about 10 seconds. A detected cable fault or no link present will be indicated by the corresponding port's **Speed** LED glowing (Amber) for 5 seconds after the initial port scan.

   A good cable connection will be indicated by the corresponding port's **Speed** LED glowing (Green) for 5 seconds. The EtherSwitch 7F will then reset for normal operation.

3. The **Speed** LED indicators (Top) at the front panel that corresponds to each port number will light up (Green) when a secure connection is present.

   The **Activity** LED (Bottom) will light up steady with a successful link and blink when reception or transmission of data is occurring at the port.

4. The **Speed** LED indicator will light up green when the port is connected to a 1000Mbps Ethernet station, and amber when connected to a 100Mbps Ethernet device. The indicator will remain off when the port is connected to a 10Mbps Ethernet device.

## 2.5 Installation

Unique Magic Box interlocking enclosure facilitates easy rack mounting when used in pairs and easy truss mounting via captive nut insert. Rack mounting brackets are available in single unit and dual unit versions.

Note: for truss mounting, we recommend the use of a ½"-13UNC x ¾" long bolt to avoid damage.

# 3. Troubleshooting

Troubleshooting is a process of elimination. First, rule out the other field factors (i.e. bad connections, faulty cables and power supplies). For technical advice and/or parts, please contact your selling dealer or the offices listed in this manual.

| Symptom | Possible Cause | Solution |
|---|---|---|
| LED indicator for power is off. | Power cord is not connected properly.<br>There is no power at the source. | Check power source, power cord and connector. |
| Speed LED lights amber upon cable diagnostic. | Loose connection; damaged cable;<br>damaged connector;<br>no connection. | Replace damaged cable.<br>Check connector. |
| Speed LED lights is off.<br>No connection detected. | Poor connection. Possible transmission fault at the source.<br>Electronics fault in unit if it is connected to a 100/1000Mbps Ethernet device. | Check connection/connectors.<br>Check Ethernet device.<br>Call selling dealer. |

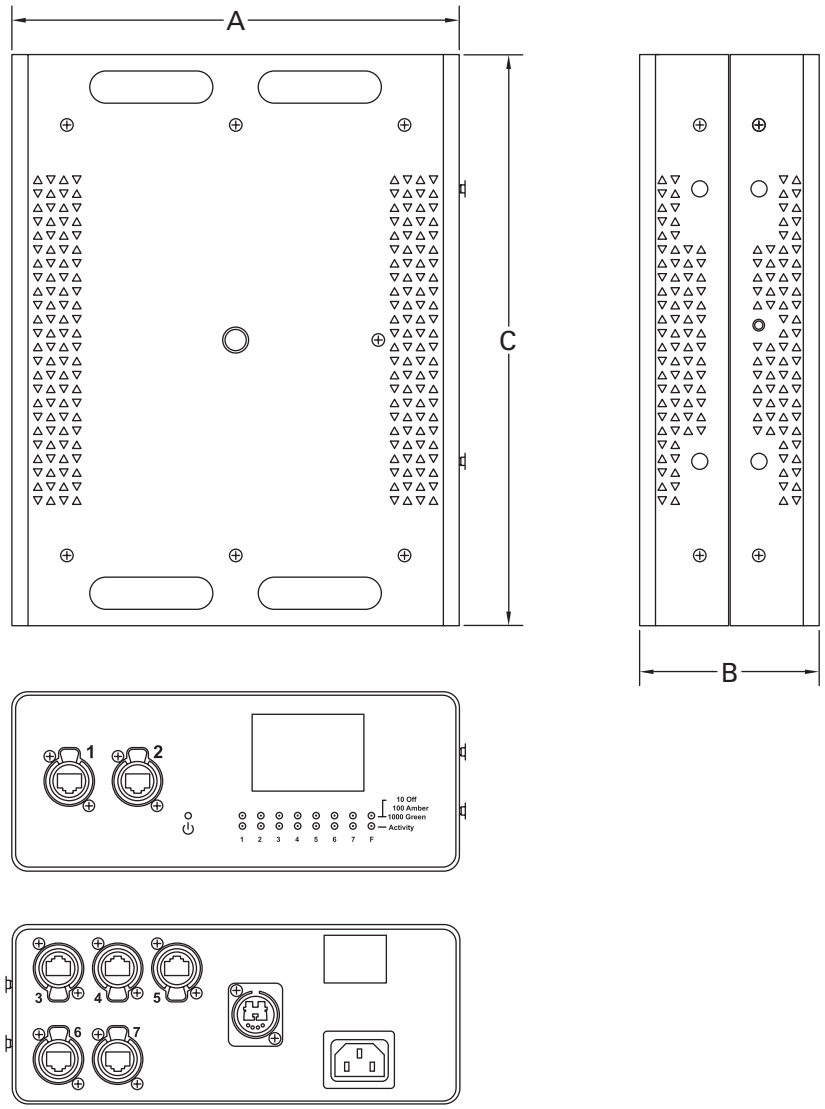
# 4. Specification

## 4.1 Technical specifications

| | |
|---|---|
| Product Code: | CHES07F |
| Dimensions: | 280mm x 220mm x 88mm<br>11" x 8.6" x 3.5" |
| Weight: | 3.5kg / 7.8lbs |
| Power: | 100-240V AC, 50-60Hz, 0.4A |
| Power connector: | IEC |
| Ethernet Switch Type: | Intelligent store & forward |
| Ethernet Protocols: | All IEEE 802.3 |
| RJ45/EtherCon Port: | Shielded 10BaseT/ 100BaseTX/ 1000BaseT |
| RJ45/EtherCon: | Auto-negotiation |
| RJ45/EtherCon MDI/MDIX: | Auto-crossover |
| RJ45/EtherCon TD and RD polarity: | Auto-polarity |
| OpticalCon Port: | 1000 Mbps |
| MAC Addresses Supported: | 8192 |
| VLAN Supported: | 4096 |
| Jumbo Frame Support: | up to 9.6K |
| Buffer Memory: | 144 Kbytes |
| Memory Bandwidth: | 16 Gbps for full wire speed on all ports |

| | |
|---|---|
| Forwarding Rate: | 10 Mbps : 14,880pps<br>100 Mbps : 148,81pps<br>1000 Mbps : 1488,1pps |
| Port Connection: | Link and Activity LED indicators |
| Power: | Power LED |
| Max Fiber Optic cable run: | 550m / 1800ft |
| Colour: | Black |
| Approvals : | Pending |

## 4.2 Drawings




# 5. Maintenance

With care, the Chroma-Q Magic Box EtherSwitch 7F will require little maintenance. However, as the unit is likely to be used in a stage environment we recommend periodical internal inspection and cleaning of any resulting dust and cracked oil residue.

Do not spray liquids on the front or rear panel. If the front enclosure requires cleaning, wipe with a mild detergent on a damp cloth.